



**west virginia** department of environmental protection

Division of Air Quality

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**ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Application No.: R13-1506D  
Plant ID No.: 031-000005  
Applicant: Pilgrim's Pride Corporation (Pilgrim's)  
Facility Name: Moorefield Feed Mill, Hatchery and Truck Shop Complex  
Location: Physical Address: Rt. 220 South, Industrial Park Road  
Mailing Address: P.O. Box 539  
Moorefield, WV 26836  
NAICS Code: Feed Mill – 311119 Other Animal Food Manufacturing  
Hatchery – 112340 Poultry Hatcheries  
Truck Shop – 484220 Specialized Freight (except Used Goods) Trucking, Local  
Application Type: Modification  
Received Date: January 18, 2017  
Engineer Assigned: John Legg  
Fee Amount: Modification - \$1,000.00 paid January 18, 2017  
NSPS - \$1,000.00 paid January 19, 2017  
NESHAP - \$2,500.00 paid February 24, 2017

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Date Received: Multiple dates. See Fee Amount above.  
Complete Date: February 24, 2017 (\$2,500.00 NESHAP fee paid)  
(Note: NESHAP fee was refunded because DAQ did not take delegation of 40 CFR 63, Subpart 7D. However, it shouldn't have been because the existing, unpermitted emergency generator engine was subject to 40 CFR 63, Subpart ZZZZ.)

Due Date: May 24, 2017  
Applicant Ad Date: January 18, 2017  
Newspaper: *The Moorefield Examiner*  
UTM's: Easting (KM): 674.450 Northing (KM): 4,323.615 Zone: 17  
Description: Pilgrim prefers a single air permit. To achieve this goal, sources located at Pilgrim's Hatchery and Truck Shop will be added to the company's current Poultry Feed Mill permit. The only new construction associated with this application is a new 1,000 KW emergency generator engine to be located at the Hatchery. Several items found during a recent internal Pilgrim's audit will be corrected/added in the updated permit.

### **Summary**

As part of this permitting action, undocumented emission sources at the Hatchery and Truck Shop will be incorporated into the existing Feed Mill Permit. The Feed Mill, Hatchery and Truck Shop are located on a contiguous tract of land.

This application is to install a new 1,490 BHP (10.43 mm Btu/hr) Emergency Generator at the Hatchery and to address the following items which were identified during an internal Pilgrim's review of facility operations:

- Add or update the permit on the following Feed Mill sources:
  - The Main Ingredient Receiving Distribution System (2CS) and its associated baghouse (2C) are unpermitted/undocumented in the current permit.

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- The current permit only lists one baghouse (4C) and one emission point (4E) for the Pneumatic Receiving Systems (Truck Unloading) (4S). Instead there are two (2) baghouses (4C1 and 4C2) and two (2) exterior emission points (4E1 and 4E2)
- The Feed Loadout (11S) rate, currently permitted at 60 tph, has the actual capacity of 150 tph. There is no change in the annual capacity, tpy.
- Add existing Hatchery and Truck Shop emission sources to the current Feed Mill permit:

#### Hatchery:

- Diesel-fired, 750 BHP (5.25 mm Btu/hr) **Emergency Generator**
- Natural gas-fired, 1.68 mm Btu/hr **Hot Water Heater** (for Hatchery use/sanitation)
- Thirty-one (31), natural gas-fired **Comfort Heating Units** (to provide space/comfort heating for the Hatchery)

#### Truck Shop:

- Two (2), Used Oil Heaters (provides space heating for the Truck Shop during cold weather; oils generated during fleet vehicle maintenance activities at the Truck Shop)
- Document the facility's correct NAICS codes.

### **Process Description**

See Attachment 1 to this evaluation for process description information on the **Poultry Feed Mill** which has been permitted in the past.

### **Poultry Feed Mill**

#### **Receiving Operations (2AS, 4S) (see Attachment 1)**

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### Materials Handling and Storage (2BS, 2CS, 3S)

Grain, ingredients, and other products are conveyed via conveyors, elevators, etc. to storage bins/silos or for processing inside the Mill. Conveyors, elevators, etc. are generally enclosed or are located indoors. However, fugitive emissions may result from headhouse and grain handling activities (2BS). Primary grain storage includes concrete silos and steel bins. These silos and bins have multiple small vents (3S) to allow displaced air to exit while the silos/bins are being filled with grain.

Note: The **Main Ingredient Receiving Distribution System** was an undocumented source up until now. Its description is given below:

Many ingredients received are conveyed using the Main Ingredient Receiving Distribution System (2CS; 2CE) which includes a turn-head that distributes ingredients to additional conveying systems or storage bins. This System is aspirated by a Baghouse (2C) which aids in air movement and associated material transfer and allows air generated from product movement to be filtered before exhausting to the atmosphere. Collected materials in the baghouses are returned to the respective conveying system. Ingredients are transferred to storage bins inside the Mill.

Grain Grinding (5S, 6S, 10 S) (see Attachment 1)

Batching and Mixing (see Attachment 1)

Pelleting (7S, 9S)

Finished Feed Truck Loadout (11S)

### **Hatchery**

A pro-longed power outage would be devastating to poultry operations. The Hatchery is planning to install a new 1,000 KW (1,490 BHP) diesel-fired generator (2H), along with an existing 500 KW (750 BHP) diesel-fired generator (1H), to provide power to critical Hatchery operations in the event of a power outage or other emergency. The generator engines will fire No. 2 fuel oil.

In addition to the generators, there are also other smaller combustion emission sources at the Hatchery. A 1.68 mm Btu/hr, natural gas-fired Hot Water Boiler (3H)

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is used to provide hot water for Hatchery operations and sanitation. There are also thirty-one (31) small natural gas-fired heating units (4H), located on the roof, used for comfort and space heating of the Hatchery building. These units range in the size from 0.10 mm Btu/hr – 0.54 mm Btu/hr.

### **Truck Shop**

The Truck Shop generates use motor oil and other oil fluids from vehicle maintenance activities that occur onsite. The used oil is collected and stored in small above ground storage tanks. During cold weather periods, the used oil is combusted in one of two Used Oil Heaters (1TS, 2TS) to provide space/comfort heating of the Truck Shop building.

### **SITE INSPECTION**

DAQ Enforcement Inspector Joseph Kreger from Enforcement's Eastern Panhandle Regional Office (Romney, WV) completed a full onsite inspection of the facility on October 25, 2013 at which time the facility was given the inspection code of 30 for in compliance.

Directions to the facility as given in the application:

From downtown Moorefield, head south on WV Route 220 for approximately 1.5 miles to Moorefield Industrial Park Road on the right.

### **ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER**

The writer reviewed Pilgrim's calculations and found them to be logical and correct. The writer's own calculations are given in Attachment 3 to this evaluation. Emissions resulting from this evaluation are estimated to increase by the following amounts:

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Pollutant	Emission Increase from Modification R13-15067D		Comments
	(lb/hr)	(ton/yr)	
PM	5.24	3.67	<p>Increase from <u>Feed Mill</u> (2CS; 2CE), Main Ingredient Receiving Distribution System: 0.13 lb/hr and 0.56 ton/yr.</p> <p>Increase from <u>Feed Mill</u> (4S; 4F1 &amp; 4F2), Pneumatic System (Truck Unloading): 0.10 lb/hr and 0.43 ton/yr.</p> <p>Decrease from <u>Feed Mill</u> (11S; 11E), Feed Shipping: 0.10 lb/hr and 0.16 ton/yr. Feed Shipping determined to be a fugitive emission source.</p> <p>Increase from <u>Hatchery</u> Emergency Generator Engines [(1H; 1HE) and (2H; 2HE)]: 4.86 lb/hr and 1.22 tons/yr.</p> <p>Increase from <u>Hatchery</u> Hot Water Boiler (3H; 3HE) and Comfort Heating Units (4H; 4HE): 0.10 lb/hr and 0.94 ton/yr.</p> <p>Increase from <u>Truck Shop</u> Used Oil Heaters [(1TS; 1TSE) and (2TS; 2TSE)]: 0.15 lb/hr and 0.68 ton/yr.</p>
NOx	70.53	23.33	<p>Increase from <u>Hatchery</u> Emergency Generator Engines [(1H; 1HE) and (2H; 2HE)]: 69.15 lb/hr and 17.29 tons/yr.</p> <p>Increase from <u>Hatchery</u> Hot Water Boiler (3H; 3HE) and Comfort Heating Units (4H; 4HE): 1.30 lb/hr and 5.96 ton/yr.</p> <p>Increase from <u>Truck Shop</u> Used Oil Heaters [(1TS; 1TSE) and (2TS; 2TSE)]: 0.08 lb/hr and 0.35 ton/yr.</p>
CO	16.00	8.56	<p>Increase from <u>Hatchery</u> Emergency Generator Engines [(1H; 1HE) and (2H; 2HE)]: 14.90 lb/hr and 3.73 tons/yr.</p> <p>Increase from <u>Hatchery</u> Hot Water Boiler (3H; 3HE) and Comfort Heating Units (4H; 4HE): 1.09 lb/hr and 4.78 ton/yr.</p> <p>Increase from <u>Truck Shop</u> Used Oil Heaters [(1TS; 1TSE) and (2TS; 2TSE)]: 0.01 lb/hr and 0.05 ton/yr.</p>

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Pollutant	Emission Increase from Modification R13-15067D		Comments
	(lb/hr)	(ton/yr)	
SO2	4.70	1.76	<p>Increase from <u>Hatchery</u> Emergency Generator Engines [(1H; 1HE) and (2H; 2HE)]: 4.55 lb/hr and 1.14 tons/yr.</p> <p>Increase from <u>Hatchery</u> Hot Water Boiler (3H; 3HE) and Comfort Heating Units (4H; 4HE): 0.01 lb/hr and 0.03 ton/yr.</p> <p>Increase from <u>Truck Shop</u> Used Oil Heaters [(1TS; 1TSE) and (2TS; 2TSE)]: 0.14 lb/hr and 0.59 ton/yr.</p>
VOC	5.72	1.74	<p>Increase from <u>Hatchery</u> Emergency Generator Engines [(1H; 1HE) and (2H; 2HE)]: 5.65 lb/hr and 1.41 tons/yr.</p> <p>Increase from <u>Hatchery</u> Hot Water Boiler (3H; 3HE) and Comfort Heating Units (4H; 4HE): 0.07 lb/hr and 0.31 ton/yr.</p> <p>Increase from <u>Truck Shop</u> Used Oil Heaters [(1TS; 1TSE) and (2TS; 2TSE)]: 0.00 lb/hr and 0.02 ton/yr.</p>

## **REGULATORY APPLICABILITY**

Pilgrim's Moorefield Complex is a non-major, stationary source under Rule 13; is exempt from Title V permitting and is an area source for Hazardous Air Pollutants (HAPs).

The following State and Federal Rules were examined for applicability:

45CSR2 - "To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers"

Section 3 of this rule applies to Pilgrim's:

One (1)	1.68 mm Btu/hr	NG Hot Water Boiler
Thirty-one (31)	11.294 mm Btu/hr (Total)	NG Comfort Heating Units
Two (2)	0.5 & 0.25 mm Btu/hr	Used Oil Heaters

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According to Section 11.1: "Any fuel burning unit(s) having a heat input under ten (10) million B.T.U.'s per hour will be exempt from sections 4, 5, 6, 8 and 9." CAMC's boilers each have a heat input of 4.5MM Btu/hr. Exempted sections:

- Section 4 is entitled: "Weight Emission Standards."
- Section 5 is entitled: "Control of Fugitive Particulate Matter."
- Section 6 is entitled: "Registration."
- Section 8 is entitled: "Testing, Monitoring, Recordkeeping and Reporting."
- Section 9 is entitled: "Start-ups, Shutdowns and Malfunctions."

Applicable/non-exempted sections:

- Section 3 is entitled, "Visible Emissions of Smoke And/Or Particulate Matter Prohibited And Standards of Measurement.;"
- Section 7 is entitled, "Permits;"
- Section 10 is entitled, "Variances;"
- Section 11 is entitled, "Exemptions;" and
- Section 12 is entitled, "Inconsistency Between Rules."

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average. **[45CSR§2-3.1.]**

Note that visible emission checks for all the above listed equipment are not required because the equipment is exempted from Section 8 of Rule 2.

45CR10        -        "To Prevent and Control Air Pollution From the Emission of Sulfur Oxides."

With regards to all the equipment listed above under 45CSR2:

According to Section 10.1: "Any fuel burning units having a design heat input under ten (10) million BTU's per hour will be

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exempt from section 3 and sections 6 through 8.” Exempted sections:

- Section 3 is entitled: “Sulfur Dioxide Weight Emission Standards for Fuel Burning Units.”
- Section 6 is entitled: “Registration.”
- Section 7 is entitled: “Permits.”
- Section 8 is entitled: “Testing, Monitoring, Recordkeeping and Reporting.”

Applicable/non-exempted sections have no substantive requirements or no applicable requirements:

- Section 4 is entitled, “Standards for Manufacturing Process Source Operations;”
- Section 5 is entitled, “Combustion of Refinery or Process Gas Streams;”
- Section 9 is entitled, “Variance;”
- Section 10 is entitled “Exemptions and Recommendations;”
- Section 11 is entitled, “Circumvention;” and
- Section 12 is entitled, “Inconsistency Between Rules.”

45CSR13 - “Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation.”

Pilgrim’s submitted a complete application (February 24, 2017) for the construction of two diesel-fueled emergency generator sets, one (1) NG Hot Water Boiler, thirty-one (31) NG Comfort Heating Units, and two (2) Used Oil Heaters; ran a legal advertisement (***The Moorefield Examiner***, January 18, 2017); and paid a \$2,000 application fee (January 18, 2017 - \$1,000 application fee; January 19, 2017 - \$1,000 NSPS fee; and February 24, 2017 - \$2,500.00 MACT fee) to obtain a modification permit.

The \$2,500 MACT fee was refunded because the DAQ did not take delegation of the Feed Manufacturing NESHAP, 40 CFR 63, Subpart DDDDDDD (7D). As was noted early, the fee was mistakenly returned

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because the existing emergency generator engine was subject to 40 CFR 62, Subpart ZZZZ.

45CSR16      “Standards of Performance for New Stationary Sources”

Adopts by reference the standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement the standards of performance for new stationary sources set forth in 40 CFR Part 60. The rule also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

40 CFR 60, Subpart IIII applies to the new 1,490 BHP, diesel-fueled emergency diesel-fired engine/generator set. See below.

40CSR30 -   "Requirements for Operating Permits."

Although subject to 40 CFR 60 Subpart IIII, the facility is exempt from Title V permitting.

45CSR34 -   “Emission Standards for Hazardous Air Pollutants for Source Categories Pursuant to 40 CFR, Part 63”

This rule establishes and adopts a program of national emission standards for hazardous air pollutants (NESHAPS) and other regulatory requirements promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Parts 61, 63 and section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a), or one or more of the substances listed as hazardous air pollutants in section 112(b) of the CAA. The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance

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specifications and other test methods which are appended to these standards.

40 CFR 63, Subpart ZZZZ applies to the existing 750 BHP, diesel-fueled emergency engine/generator set. See below. As was noted above, the \$2,500.00 fee for 40 CFR 63 should have been kept because the existing engine/generator set is subject to 40 CFR 63, Subpart ZZZZ.

40 CFR 60 Subpart IIII, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.”

On July 11, 2006 the USEPA issued the NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). This rule outlines standards of performance for stationary compression ignition (CI) internal combustion engines (ICE). The rule segments applicability primarily by whether the applicant is an engine manufacturer, or an owner/operator.

Pilgrim’s new 1,490 BHP diesel-fueled emergency generator engine is subject to Subpart IIII because the engine is a stationary CI ICE that commenced construction after July 11, 2005, and was manufactured after April 1, 2006 and is not a fire pump engine.

The generator engine manufacturer must certify that their engine meets the emissions standards for nonroad CI engines in 40 CFR and as such is not required to perform an initial performance test. The unit will be operated as an emergency generator and will be limited to 100 hours per year for maintenance and testing. Additionally, the engine must be operated and maintained according to the manufacturer’s written instructions or the permittee’s own maintenance. See Section 7 of permit R13-1506D (also in Attachment 2 to this evaluation) for further Subpart IIII requirements.

40CFR63, Subpart ZZZZ “National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.”

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Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. The subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

Pilgrim's is classified as an area source of HAP emissions (individual HAP with potential emissions less than or equal to 10 ton/yr; aggregated HAP with potential emissions less than or equal to 25 ton/yr) and will remain so after the issuance of this modification permit.

Because the existing 750 BHP, stationary engine was constructed before June 12, 2006, is greater than 500 HP, and is located at an area source of HAP, it is classified as an affected source under 40 CFR 63 Subpart ZZZZ. See Section 6 of permit R13-1506D (also in Attachment 2 to this evaluation) for Subpart ZZZZ requirements.

#### TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The combustion of natural gas and diesel fuel results in the formation of small amounts of Hazardous Air Pollutants (HAP).

#### AIR QUALITY IMPACT ANALYSIS

This modification is determined to be a minor modification to an existing minor source, as defined in 45CSR14. No modeling studies were performed.

#### MONITORING OF OPERATIONS

The following Feed Mill sources are now required to perform monthly visible emission checks:

2CE -	Baghouse for Main Ingredient Receiving Distribution System (unpermitted source until R13-1506D).
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4E1, 4E2 - Baghouses for Pneumatic Truck Unloading Systems (one of the baghouses was an unpermitted source until R13-1506D).

For the Hatchery Emergency Generator Engines (1H and 2H), the permittee shall monitor and record the monthly and rolling twelve-month total hours of operation for the engines.

There are no monitoring requirements for:

- The Hatchery Natural Gas-fired Hot Water Boiler (3H) and Natural Gas-fired Comfort Heating Units (4H).
- The Truck Shop Used Oil Heaters (1TS and 2TS).

### **CHANGES TO PERMIT R13-1560D**

See Attachment 2 to this evaluate for a compare file comparing R13-1506D (new permit) to R13-1506C (previous permit).

Pilgrim's specifically requested (in their cover letter to the application) that the following change be made to the permit because:

"The current wording of this Condition requires undue burden (i.e., keeping records of the date, time and location of deliveries). We believe that keeping monthly records of the total ingredients received and total finished feed shipped is sufficient to show compliance with Permit Condition 5.1.4."

**Before:** 5.4.5. For determining compliance with the PM emission limitations established under permit condition 5.1.4., the permittee shall maintain accurate records for each truck/railcar shipment detailing the arrival/departure: date and time, specific load/unloading location, and amount of material(s) (corn, soybean mill, additives, product, etc.) entering or leaving the facility. These records shall be certified by the responsible official and maintained on site for a period of no less than five (5) years, and made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request. (2AE, 4E1, 4E2, 11E and 12E)

**After:** 5.4.5. For determining compliance with the PM emission limitations established under permit condition 5.1.4., the permittee shall maintain ~~accurate monthly~~ records ~~for each truck/railcar shipment detailing the arrival/departure: date and time, specific load/unloading location, and amount of material(s) (corn, soybean mill, additives, product, etc.) entering or leaving the facility~~ of ingredients received and finished feed shipped.

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These records shall be certified by the responsible official and maintained on site for a period of no less than five (5) years, and made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request. (2AE, 4E1, 4E2, 11E and 12E)

The writer agreed with Pilgrim's proposed change.

The last line in Table 5.1.4 in the permit was deleted because the emission source was re-classified as being a fugitive emission source:

Emission		Source		PM After Controls	
Unit ID No.	Point ID No.	Equipment	Control Device	lb/hr	Tpy
<del>11S</del>	<del>11E</del>	<del>Feed Shipping</del>	<del>Full Enclosure</del>	<del>0.04</del>	<del>0.16</del>

The writer agreed with Pilgrim's proposed change.

### **RECOMMENDATION TO DIRECTOR**

The information in the permit application complies with all applicable regulations. Therefore, it is the writer's recommendation that this modification permit for the addition of a 1,490 BHP, diesel-fueled emergency generator engine and several other previously unpermitted sources be granted to Pilgrim's Pride Corporation.

John Legg

DAQ Permit Writer

May 1, 2017

Date

### **Attachment 1**

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**Permit R13-1506D**  
**Pilgrim's Pride Corporation**  
**Moorefield, WV Poultry Feed Mill, Hatchery and Truck Stop**

The following information came from permit application R13-1506D, Attachment G:

**General Facility Description**

The Pilgrim's Pride Corporation Moorefield Poultry Feed Mill (Mill), Hatchery and Truck Shop are located in Moorefield, West Virginia.

The Mill receives grain, soybean meal and other ingredients via truck and rail for the purpose of making poultry feed. Ingredients are ground, mixed, batched and pelleted into finished poultry feed. Finished poultry feed is loaded onto trucks to transport offsite to contract poultry growers. Operations at the Mill fall under NAICS 311119 – chicken feeds, prepared, manufacturing.

The Hatchery receives eggs from contract growers, incubates and hatches the eggs and ships the hatched chicks to contract chicken growers. Hatchery operations are under NAICS 112340 – poultry hatcheries.

The Truck Shop maintains fleet vehicles used in the transportation of poultry feeds and other poultry products. Activities include major/minor vehicles repairs, lubrication, maintenance, and tire replacement. Truck Shop operations are under NACIS 484220 – specialized freight trucking, local.

**Feed Mill**

**Receiving Operations (2AS, 4S)**

Grain (corn, soybean meal, dried distillers grains, etc.), softstock ingredients (meat & bone meal, etc.) and other dry ingredients are received via truck and railcar at the North Rail Station (2AS) and South Rail and Truck Station (2AS). Emissions from truck and rail receiving consist of fugitive emissions caused by the emptying of ingredients from a truck or railcar. Fugitive emissions are minimized from the Truck and Railcar Receiving Pits by using choke feeding as applicable. Truck receiving operations occur in a metal-sided building that is enclosed except for the entrance/exit to the receiving pit, which also minimizes fugitive emissions. Ingredients are conveyed from the pits through a series of screw conveyors, elevators, etc.

Various ingredients, such as salt, phosphate and limestone, are received pneumatically (4S). A delivery truck will connect to the receiving pipe, and ingredients are blown (using a truck mounted blower) through the piping into the top of storage bins located atop the Mill. Displaced air that results from filling the bins is aspirated through one of three baghouses that sit atop the pneumatically received storage bins. There are two baghouses (4C1, 4C2) that are vented and exhaust outdoors. There is a third baghouse (technically a cartridge filter which is similar to a baghouse) that exhausts indoors and is not considered an emission source.

#### Materials Handling and Storage (2BS, 2CS, 3S)

Grain, ingredients and other products are conveyed via conveyors, elevators, etc. to storage bins/silos or for processing inside the Mill. Conveyors, elevators, etc. are generally enclosed or are located indoors. However, fugitive emissions may result from headhouse and grain handling activities (2BS). Primary grain storage includes concrete silos and steel bins. These silos and bins have multiple small vents (3S) to allow displaced air to exit while the silos/bins are being filled with grain.

Many ingredients received are conveyed using the Main Ingredient Receiving Distribution System (2CS) which includes a turn-head that distributes ingredients to additional conveying systems or storage bins. This System is aspirated by a Baghouse (2C) which aids in air movement and associated material transfer and allows air generated from product movement to be filtered before exhausting to the atmosphere. Collected materials in the baghouses are returned to the respective conveying system. Ingredients are transferred to storage bins inside the Mill.

#### Grain Grinding (5S, 6S, 10 S)

Grain (corn) is conveyed from the storage silos/bins to one of three Hammermills (5S, 6S, 10S) for grinding. The hammermills grind the corn for use in the finished feed. Each Hammermill is aspirated by a baghouse (5C, 6C, 10C) to increase product throughput through the Hammermill and to recover ground grain. Each baghouse serves a primary product processing function and a secondary air pollution control function. Ground grain is conveyed to storage bins to await batching and mixing.

#### Batching and Mixing

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Ground grain is combined with softstock ingredients, minerals and other micro ingredients in the mixer(s) to produce mixed feed prior to pelleting. This process occurs completely inside the Mill with no direct atmospheric emissions.

#### Pelleting (7S, 9S)

Mixed feed (also referred to as mash feed) is conveyed to one of two pelleting systems. Each pelleting system consists of a pellet mill, which pelletizes the feed, and a pellet cooler(s) which cools the feed pellets. The Pellet Coolers are each aspirated by a set of cyclones operating in parallel (7C, 9C), and each cyclone system is a negative air system controlled by a fan which discharges to the atmosphere. The cyclones operate primarily as a product collector and serve a secondary air pollution control function. Steam from the Boilers are used in the pelleting process.

#### Boilers (1S, 8S)

The boilers (1S, 8S) are each 500 HP Boilers which fire natural gas. Each boiler has the ability to fire No. 2 fuel oil on a limited basis during natural gas curtailments and for maintenance/testing. The Boilers provide steam for milling operations.

#### Finished Feed Truck Loadout (11S)

Finished feed is loaded out onto trucks for delivery to contract growers. Finished feed loadout occurs in a loadout bay (11S) in a two-sided building that is only open at the truck entrance/exit, which provides additional emissions control (emissions control provided by the two-sided structure). Fugitive particulate emissions occur during the truck loading process. Loading spouts are installed on the feed loadout assembly to minimize fugitive emission from this operation by reducing the distance between the loadout spouts and the trucks being loaded with poultry feeds.

#### Discussion of **Manganese** Storage, Usage and Handling

Note: The Feed Mill portion of Pilgrim's Feed Mill, Hatchery and Truck Shop Complex is subject to the Feed Manufacturing NESHAP [40 CFR 63, Subpart DDDDDDD (7D)]. The State of West Virginia under State Rule 45CSR34 declined to take delegation of Subpart 7D and as such, does not have the regulatory authority to incorporate Subpart 7D requirements into this state modification permit.

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The Mill uses a trace minerals ingredient that contain manganese. The trace minerals are typically received in 50-lb bags. The manganese component of this ingredient ranges from approximately 10%-15% depending upon the feed formulation. The trace minerals are mixed into the feed by manually emptying the trace minerals bags into the micro mixing system.

The micro mixing system is a set of small hoppers that are kept covered, except when being filled with an ingredient. The trace minerals are slowly conveyed out the bottoms of the small hoppers and mixed into the feed. The micro mixing system and mixing systems are enclosed systems located inside the Mill. The manganese constitutes less than 0.01% of the finished feed. Housekeeping of areas where manganese is stored, used and handled is performed in accordance with 40 CFR 63.11621(a).

After mixing, the mixed feed is conveyed to bins to await pelleting. The feed is conveyed from the mixed feed storage bins to one of the two pelleting system. Each pelleting system operates in a similar manner. The mixed feed is conditioned (heated with steam) in a conditioner and fed into a pellet mill, which pelletizes the feed. The pelleted feed is then conveyed through a cooler (a chamber for mixing with air) to cool the pellets before being conveyed to finished feed storage. The air is pulled through the cooler, filtered by cyclone collectors before exhausting outdoors through the fan. Particulate picked up by the airstream in the coolers is dropped out in the cyclone collectors. These systems are shown in Attachment F. The pellet cooler cyclones are maintained in accordance with 40 CFR 63.11621(f).

The pelleted (finished) feed is conveyed from the coolers to await loadout into trucks as described above. Feed loadout occurs in accordance with 40 CFR 63.11621(d).

### Hatchery

A pro-longed power outage would be devastating to poultry operations. The Hatchery is planning to install a new 1,000 KW diesel-fired generator (2H), along with an existing 500 KW diesel-fired generator (1H), to provide power to critical Hatchery operations in the event of a power outage or other emergency. The generator engines will fire No. 2 fuel oil.

In addition to the generators, there are also other smaller combustion emission sources at the Hatchery. A natural gas-fired Hot Water Boiler (3H) is used to provide hot water for Hatchery operations and sanitation. There are also numerous small natural gas-fired heating units (4H), located on the roof, used to comfort and space heating of the Hatchery

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building. There are currently 31 units, ranging in the size from 0.10 mm Btu/hr – 0.54 mm Btu/hr.

#### Truck Shop

The Truck Shop generators use motor oil and other oil fluids from vehicle maintenance activities that occur onsite. The used oil is collected and stored in small above ground storage tanks. During cold weather periods, the use of oil is combusted in one of two Used Oil Heaters (1TS, 2TS) to provide space/comfort heating of the Truck Shop building.

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**Attachment 2**

**Permit R13-1506D**

**Pilgrim's Pride Corporation**

**Moorefield, WV Poultry Feed Mill, Hatchery and Truck Stop**

**Compare File (Comparing R13-1506D to R13-1506C)**

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**Attachment 3**

**Permit R13-1506D**

**Pilgrim's Pride Corporation**

**Moorefield, WV Poultry Feed Mill, Hatchery and Truck Stop**

**Calculation Section**

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Pollutant	Hatchery Emergency Generator Engines					
	Existing 750 BHP		New 1,490 BHP		Total (Existing + New)	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
PM	3.23	0.81	1.63	0.41	4.86	1.22
PM <sub>10</sub>	3.23	0.81	1.63	0.41	4.86	1.22
PM <sub>2.5</sub>	3.23	0.81	1.63	0.41	4.86	1.22
NOx	46.00	11.50	23.15	5.79	69.15	17.29
CO	9.91	2.48	4.99	1.25	14.90	3.73
SO <sub>2</sub>	3.03	0.76	1.52	0.38	4.55	1.14
VOC	3.76	0.94	1.89	0.47	5.65	1.41

Pollutant	Hatchery Hot Water Boiler and 31 Comfort Heating Units					
	Hot Water Boiler (1.68 mm Btu/hr)		31 Comfort Heating Units (11.294 mm Btu/hr)		Total (Boiler + Heating Units)	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
PM	0.013	0.56	0.09	0.38	0.10	0.94
PM <sub>10</sub>	0.013	0.56	0.09	0.38	0.10	0.94
PM <sub>2.5</sub>	0.013	0.56	0.09	0.38	0.10	0.94
NOx	0.17	0.74	1.13	4.95	1.30	5.69
CO	0.14	0.62	0.95	4.16	1.09	4.78
SO <sub>2</sub>	0.00	0.00	0.01	0.03	0.01	0.03
VOC	0.01	0.04	0.06	0.27	0.07	0.31

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Pollutant	Truck Shop Used Oil Heaters					
	Used Oil Heater (0.5 mm Btu/hr)		Used Oil Heater (0.25 mm Btu/hr)		Total Used Oil Heaters [(0.5 +0.25) mm Btu/hr]	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
<b>PM</b>	<b>0.10</b>	<b>0.44</b>	<b>0.05</b>	<b>0.24</b>	<b>0.15</b>	<b>0.68</b>
<b>PM<sub>10</sub></b>	<b>0.09</b>	<b>0.38</b>	<b>0.05</b>	<b>0.20</b>	<b>0.14</b>	<b>0.58</b>
<b>PM<sub>2.5</sub></b>	<b>0.09</b>	<b>0.38</b>	<b>0.05</b>	<b>0.20</b>	<b>0.14</b>	<b>0.58</b>
<b>NOx</b>	<b>0.05</b>	<b>0.23</b>	<b>0.03</b>	<b>0.12</b>	<b>0.08</b>	<b>0.35</b>
<b>CO</b>	<b>0.01</b>	<b>0.03</b>	<b>0.00</b>	<b>0.02</b>	<b>0.01</b>	<b>0.05</b>
<b>SO<sub>2</sub></b>	<b>0.09</b>	<b>0.39</b>	<b>0.05</b>	<b>0.20</b>	<b>0.14</b>	<b>0.59</b>
<b>VOC</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.02</b>

Pollutant	Hatchery and Truck Shop							
	Hatchery				Truck Shop		Total	
	Emergency Generator Engines Total (Existing + New)		Boiler + 31 Comfort Heating Units		Total Used Oil Heaters [(0.5 +0.25) mm Btu/hr]			
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
<b>PM</b>	<b>4.86</b>	<b>1.22</b>	<b>0.10</b>	<b>0.94</b>	<b>0.15</b>	<b>0.68</b>	<b>5.11</b>	<b>2.84</b>
<b>PM<sub>10</sub></b>	<b>4.86</b>	<b>1.22</b>	<b>0.10</b>	<b>0.94</b>	<b>0.14</b>	<b>0.58</b>	<b>5.1</b>	<b>2.74</b>
<b>PM<sub>2.5</sub></b>	<b>4.86</b>	<b>1.22</b>	<b>0.10</b>	<b>0.94</b>	<b>0.14</b>	<b>0.58</b>	<b>5.1</b>	<b>2.74</b>
<b>NOx</b>	<b>69.15</b>	<b>17.29</b>	<b>1.30</b>	<b>5.69</b>	<b>0.08</b>	<b>0.35</b>	<b>70.53</b>	<b>23.33</b>
<b>CO</b>	<b>14.90</b>	<b>3.73</b>	<b>1.09</b>	<b>4.78</b>	<b>0.01</b>	<b>0.05</b>	<b>16.00</b>	<b>8.56</b>
<b>SO<sub>2</sub></b>	<b>4.55</b>	<b>1.14</b>	<b>0.01</b>	<b>0.03</b>	<b>0.14</b>	<b>0.59</b>	<b>4.70</b>	<b>1.76</b>
<b>VOC</b>	<b>5.65</b>	<b>1.41</b>	<b>0.07</b>	<b>0.31</b>	<b>0.00</b>	<b>0.02</b>	<b>5.72</b>	<b>1.74</b>

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